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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/791,832 | 03/04/2004 | Koichi Fujimori | 1035-497 | 3859 |
| 23117 | 7590 | 12/15/2006 | EXAMINER . | |
| NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203 | | | CHUNG, DAVID Y | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2871 | |

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/791,832 | FUJIMORI ET AL. | |
| | Examiner David Y. Chung | Art Unit 2871 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 20 November 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 11-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 12 and 15-17 is/are allowed.
 6) Claim(s) 11,13 and 14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. 09/932,027.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites “using only the apertures as a mask”, which does not make any sense given that an aperture and a mask are two completely different things. An aperture is a hole, gap, or opening in a layer, and a mask is something that blocks light during a photolithography process in order to form a pattern. Applicant seems to have used the terms in a way that is inconsistent with generally accepted definitions without clearly and properly redefining them in the specification. For examination purposes, the limitation is interpreted to mean that a negative photoresist is used to form the column spacers and that only the portions constituted by the apertures are exposed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 11 rejected under 35 U.S.C. 102(b) as being anticipated by Toriyama et al. (JP 11-109367).

Toriyama discloses in figure 2, transparent electrode 4, columnar spacer 5 formed on the transparent electrode, and an alignment layer 6 formed on the substrate with no alignment layer overlying or underlying the column spacers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al. (U.S. 5,793,457) in further view of Bahadur (Liquid Crystals 1990).

As to claim 13, Tamai et al. discloses a method of manufacturing a liquid crystal display wherein the light-shielding film is used to form column spacers. Note in figure 1(a), the substrate 21, the light-shielding layer 23, and photosensitive resin 27'. The apertures in the light-shielding layer 23 are used as a mask during the exposure

process shown in figure 1(a). Tamai et al teaches forming the column spacers 27 by removing non-exposed portions of the photo-resist. See column 10, lines 34-67.

Examiner interprets forming column spacers in the apertures using only the apertures as a mask to mean that the

Tamai et al. does not disclose providing a color filter. However, Bahadur shows that providing a color filter was conventional for forming a full color display. See pp. 178-181. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a color filter in order form a full color display.

As to claim 14, Tamai discloses that an organic resin with which black dye is mixed is used as the material of the spacers. See column 8, lines 62-64. Figure 1(a) shows the photosensitive resin 27' being illuminated from a side where a color filter is not provided.

Response to Arguments

Applicant's arguments with respect to claims 11, 13 and 14 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 12 and 15-17 allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art did not teach or suggest forming a display having a reflection

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section and a transmission section such that the column spacers are in contact with the reflection section.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Y. Chung whose telephone number is (571) 272-2288. The examiner can normally be reached Monday thru Friday from 8:30 am to 5:00 pm. If successive attempts to contact the examiner are unsuccessful, the examiner's supervisor David C. Nelms can be reached at (571) 272-1787.



David Nelms
Supervisory Patent Examiner
Technology Center 2800

David Y. Chung
GAU 2871
12/11/06